

Notice of Allowability

Application No.

09/885,767

Examiner

Mr. Terry K. Cecil

Applicant(s)

TAYLOR, ANCIL S.

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address.

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment of 7-26-2004 and the telephonic interview of 10-12-2004.
2. ☒ The allowed claim(s) is/are 1-4 which will remain as numbered.
3. ☒ The drawings filed on 6-20-2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 10/2004
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Note: Claims 1-4 are allowed and will remain as numbered upon allowance.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee. Authorization for this examiner's amendment was given in a telephone interview with Dennis Griggs on 10-12-2004.

2. The application has been amended as follows:
- The claims are amended as in the attached set of claims.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:
- The closest cited art—Taylor and JP '931—fail to anticipate or render obvious, alone or in any proper combination, the control means configured to control the flow of make-up water through the make-up water line (122) and the injection piping (90, 68, 66) in combination with the other claimed elements in the closed loop system of claims 1, 3 and 4.
 - It is noted that the equivalent structure for the “means for discharging a chemical decontamination reagent...” was given in the immediately prior office action. The equivalent structure for the “means for separating sludge from the slurry” is the onshore confined disposal facility (CDF) where solids are skimmed off into an adjoining collector.

Amendment to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of all claims:

1. (currently amended) A closed loop slurry processing system for pumping slurry from a slurry processing unit installed on a dredging barge to an on-shore treatment facility of the type including a containment vessel for receiving contaminated slurry, means for discharging a chemical decontamination reagent into the containment vessel for treating the slurry, and means for separating sludge from the slurry, thereby yielding process treatment water and treated sludge for disposal or further treatment, the closed loop slurry processing system comprising in combination:

a dredging barge;

a slurry processing unit installed on the dredging barge, the slurry processing unit including a hopper for ~~receiving and containing~~ collecting sludge dredged from a body of water, means for mixing make-up water with sludge in the hopper thereby producing an aqueous slurry, an inlet slurry pump having an inlet port coupled to the hopper for pumping slurry out of the hopper and having an outlet port, and slurry discharge piping coupled to the outlet port of the inlet slurry pump for discharging aqueous slurry into a delivery pipeline;

a slurry delivery pipeline connectable in flow communication with the slurry discharge piping for transporting slurry to an on-shore treatment facility for discharge into a containment vessel;

slurry pumping apparatus connectable in flow communication with the slurry delivery pipeline for pumping slurry from the slurry processing unit to the treatment facility for discharge into the containment vessel;

a return pipeline connectable in flow communication with the containment vessel for conveying process treatment water from the treatment facility to the dredging barge for discharge into the slurry processing unit;

make-up water pumping apparatus connectable in flow communication with the return pipeline for pumping process treatment water from the treatment facility to the dredging barge; and

make-up water piping coupled to the make-up water pumping apparatus, the make-up water piping including injection piping for ~~injecting~~ discharging process treatment water into the slurry discharge piping and said mixing means, said mixing means including a make-up water line for discharging process treatment water into the ~~hopper.~~ hopper; and

controller means coupled to the injection piping and the make-up water line for controlling the discharging of process treatment water into the slurry discharge piping and the hopper.

2. (previously amended) A closed loop slurry processing system according to claim 1, the make-up water pumping apparatus including:

a low pressure pump having an inlet port coupled to the containment vessel for receiving process treatment water and having an outlet port coupled to the

inlet of the return pipeline; and

a make-up water booster pump having an inlet port coupled in flow communication with the outlet of the return pipeline and having an outlet port for supplying process treatment water to the hopper and slurry discharge piping.

3. (currently amended) Closed loop slurry processing apparatus comprising in combination:

an on-shore treatment facility including a containment vessel for receiving slurry, means for discharging a chemical decontamination reagent into the containment vessel for treating the slurry, and means for separating sludge from the slurry, thereby yielding process treatment water and treated sludge for disposal or further treatment;

a dredging barge including a dredge for removing contaminated sludge from a body of water;

a slurry processing unit installed on the barge for mixing make-up water with sludge thereby producing an aqueous slurry, the slurry processing unit including a hopper for ~~receiving and containing~~ collecting sludge dredged from a body of water and make-up water for mixing with the collected sludge ~~and slurry discharge piping and injection piping coupled to the discharge piping for injecting make-up water into a flow stream of aqueous slurry pumped from the hopper;~~

a slurry delivery pipeline connectable in flow communication with the slurry processing unit for transporting slurry from the dredging barge to the treatment

facility for discharge into a containment vessel;

slurry pumping apparatus connected in flow communication with the delivery pipeline for pumping slurry from the slurry processing unit to the on-shore treatment facility for discharge into the containment vessel;

a buoyant make-up water return pipeline for conveying make-up treatment water from the on-shore treatment facility across the body of water to the dredging barge;

make-up water pumping apparatus connected in flow communication with the return pipeline for pumping process treatment water from the treatment facility to the dredging barge to be used as make-up water in the hopper and for injection into ~~the~~ a slurry discharge piping; and

make-up water piping coupled to the make-up water pumping apparatus,
the make-up water piping including injection piping for discharging process treatment
water into the slurry discharge piping and a make-up water line for discharging
process treatment water into the hopper;

controller means coupled to the injection piping and the make-up water
line for controlling the discharging of process treatment water into the slurry discharge
piping and the hopper; and

piping means connecting the delivery pipeline, containment vessel, return pipeline, slurry discharge piping, slurry pumping apparatus and make-up water pumping apparatus in series flow, closed loop relation, whereby process treatment water can be used as make-up water in the slurry processing unit and returned to the

containment vessel repeatedly without releasing process treatment water into the body of water while the sludge is being processed.

4. (currently amended) A closed loop slurry processing system for conveying an aqueous slurry containing contaminated sludge, removed from a body of water by a dredging barge, to an on-shore treatment facility for liquid-solids separation and chemical decontamination treatment, and after separation, conveying treatment water from the on-shore treatment facility to the dredging barge to be used as make-up water for mixing with collected sludge for producing an aqueous slurry and for adjustment of slurry specific gravity, said closed loop slurry processing system comprising, in combination:

a dredging barge including a dredge for removing contaminated sludge from a body of water;

a slurry processing unit disposed on the dredging barge, the slurry processing unit including a hopper for ~~receiving and containing~~ collecting contaminated sludge dredged from a body of water and means for mixing make-up water with collected sludge thereby producing an aqueous slurry, and having slurry discharge piping with an outlet for discharging aqueous slurry that can be pumped through a buoyant delivery pipeline;

a buoyant delivery pipeline connectable to the slurry processing unit for conveying slurry from the dredging barge across a body of water to an on-shore treatment facility for discharge into a slurry containment vessel for chemical treatment

and liquid-solids separation;

slurry pumping apparatus connectable in flow communication with the delivery pipeline for pumping slurry from the slurry processing unit to the on-shore treatment facility for discharge into the containment vessel;

a buoyant return pipeline connectable to the containment vessel for supplying process treatment water produced by the on-shore treatment facility for discharge into the hopper for producing a slurry mixture of sludge and treatment water and for use as make-up water in the slurry processing unit for adjustment of slurry specific gravity;

slurry pumping apparatus connected in flow communication with the delivery pipeline for pumping slurry from the slurry processing unit to the on-shore treatment facility;

make-up water pumping apparatus connected in flow communication with the return pipeline for pumping process treatment water from the treatment facility to the slurry processing unit; and

make-up water piping coupled to the make-up water pumping apparatus, the make-up water piping including injection piping for discharging process treatment water into the slurry discharge piping and said mixing means, said mixing means including a make-up water line for discharging process treatment water into the hopper; and

controller means coupled to the injection piping and the make-up water line for controlling the discharging of process treatment water into the slurry discharge

pipings and the hopper;

whereby process treatment water produced by the on-shore treatment facility can be used and recycled for use as make-up water for mixing with contaminated sludge collected in the hopper thereby producing a slurry mixture of sludge and treatment water and for adjusting the specific gravity of the slurry in the sludge processing unit without releasing process treatment water or slurry into the body of water while the contaminated sludge is being processed, and thereby reducing the amount of treatment water processed by the on-shore treatment facility that must be treated to be made environmentally safe before land or waterway disposal.

Claims 5-11 (cancelled)

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee.

Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information:

- Examiner Mr. Terry K. Cecil can be reached at (571) 272-1138 at the Carlisle campus in Alexandria, Virginia for any inquiries concerning this communication or earlier communications from the examiner. Note that the examiner is on the increased flextime schedule but can normally be found in the office during the hours of 8:30a to 4:30p, on at least four days during the week M-F.
- Wanda Walker, the examiner's supervisor, can be reached at (571) 272-1151 if attempts to reach the examiner are unsuccessful.
- The Fax number for this art unit for official faxes is 703-872-9306.
- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mr. Terry K. Cecil
Primary Examiner
Art Unit 1723

TKC
October 15, 2004